

ABSTRACT

WIRELESS DATA COMMUNICATION METHOD VIA ULTRA-WIDE BAND
ENCODED DATA SIGNALS, AND RECEIVER DEVICE FOR IMPLEMENTING THE
SAME

In the wireless data communication method, a transmitter device (2) having a first wide band antenna (27) transmits ultra-wide band encoded data signals to a receiver device (3) having a second wide band antenna (37) for receiving direct and/or multiple path encoded data signals. The transmitted data is defined by one or several
5 sequences of N pulses where N is an integer number greater than 1. The arrangement of the N pulses of each sequence constitutes data encoding relative to the transmitter device. The N pulses of one sequence of direct and/or multiple path encoded data signals received by the receiver device are each processed in one of a N corresponding temporal reception windows. Each of the N temporal reception
10 windows is positioned in time as a function of a known theoretic arrangement of the N pulses of the signals transmitted by the transmitter device. An addition of the N windows is subsequently performed in the receiver device so that the coherently added pulse amplitude level is higher than the noise amplitude level picked up by the receiver device (3).

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Figure 1a